

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P931266

Luminaire Tested: DFN2DS-TR2F0-040DS835-RLL

Issue Date: 11/20/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P931266  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/20/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DS-TR2F0-040DS835-RLL  
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens  
Light Source: -  
Ballast/Driver: -

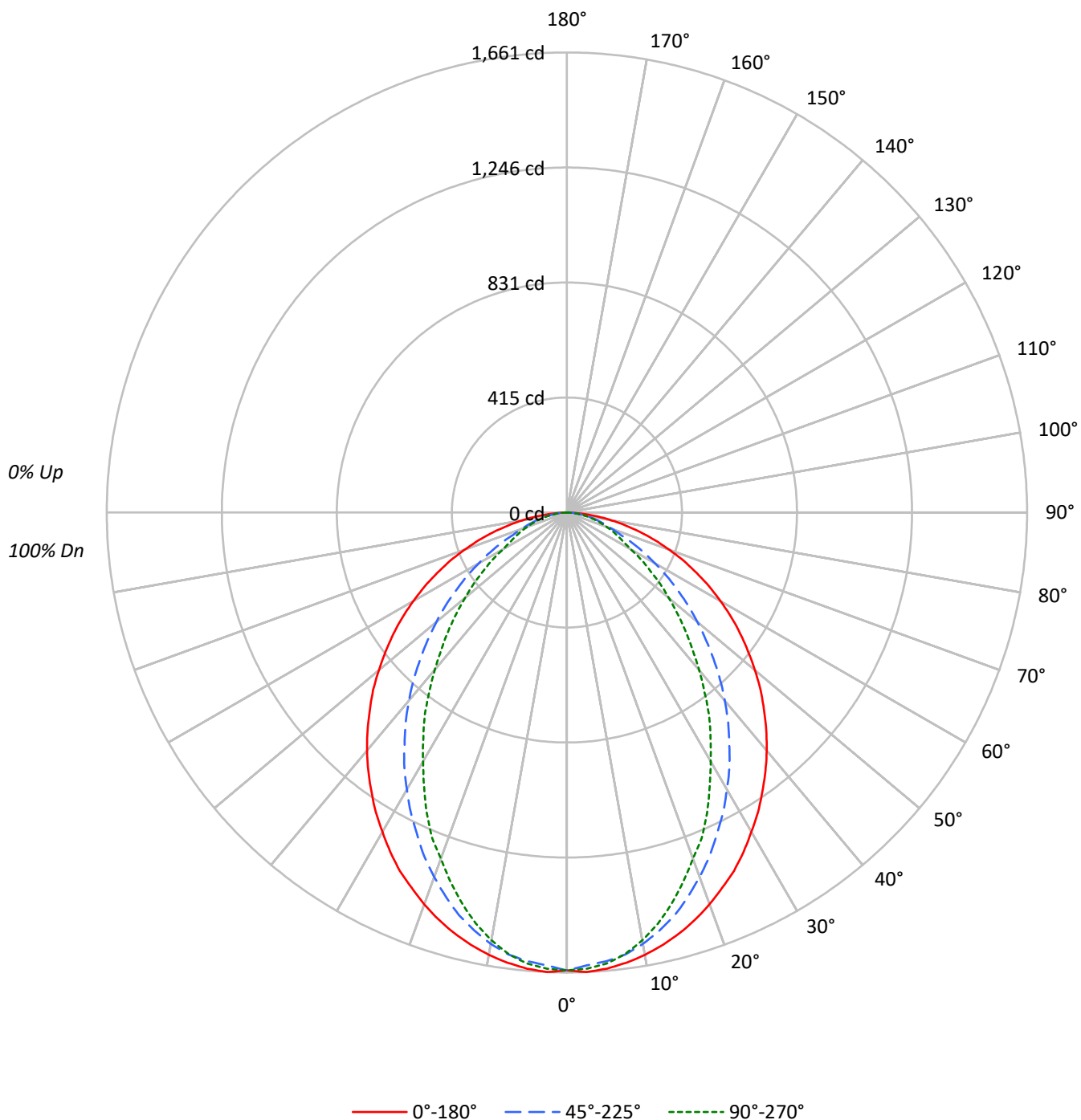
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3400.0 lumens  
Efficiency: N/A  
Efficacy: 88.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 2.36' x L: 2.04' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 38.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9933  
Total Harmonic Distortion (THDi): 0.066  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P931266

CATALOG NUMBER: DFN2DS-TR2F0-040DS835-RLL

### Luminous Intensity Polar Plot



TEST NUMBER: P931266

CATALOG NUMBER: DFN2DS-TR2F0-040DS835-RLL

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|--|-----|
| RF  | 20  |     |     |     | 20  |     |     |     | 20  |     |     |  | 20  |     |     |  | 20  |
| RC  | 80  |     |     |     | 70  |     |     |     | 50  |     |     |  | 30  |     |     |  | 10  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 110 | 106 | 102 | 98  | 107 | 103 | 100 | 97  | 99  | 96  | 94  |  | 95  | 93  | 91  |  | 92  |
| 2   | 101 | 94  | 87  | 82  | 98  | 92  | 86  | 81  | 88  | 83  | 79  |  | 85  | 81  | 78  |  | 82  |
| 3   | 93  | 83  | 76  | 70  | 90  | 82  | 75  | 69  | 79  | 73  | 68  |  | 76  | 71  | 67  |  | 74  |
| 4   | 86  | 75  | 66  | 60  | 83  | 73  | 66  | 60  | 71  | 64  | 59  |  | 69  | 63  | 58  |  | 66  |
| 5   | 79  | 67  | 59  | 53  | 77  | 66  | 58  | 52  | 64  | 57  | 52  |  | 62  | 56  | 51  |  | 60  |
| 6   | 74  | 61  | 53  | 47  | 72  | 60  | 52  | 46  | 58  | 51  | 46  |  | 57  | 50  | 46  |  | 55  |
| 7   | 68  | 56  | 47  | 42  | 67  | 55  | 47  | 42  | 53  | 46  | 41  |  | 52  | 46  | 41  |  | 51  |
| 8   | 64  | 51  | 43  | 38  | 62  | 51  | 43  | 37  | 49  | 42  | 37  |  | 48  | 42  | 37  |  | 47  |
| 9   | 60  | 47  | 39  | 34  | 59  | 47  | 39  | 34  | 46  | 39  | 34  |  | 44  | 38  | 34  |  | 44  |
| 10  | 56  | 44  | 36  | 31  | 55  | 43  | 36  | 31  | 42  | 36  | 31  |  | 41  | 35  | 31  |  | 41  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3687 | 3687 | 3687 |
| 5°  | 3701 | 3641 | 3661 |
| 10° | 3673 | 3582 | 3551 |
| 15° | 3631 | 3475 | 3375 |
| 20° | 3572 | 3324 | 3157 |
| 25° | 3513 | 3152 | 2945 |
| 30° | 3430 | 2974 | 2674 |
| 35° | 3349 | 2782 | 2436 |
| 40° | 3267 | 2583 | 2161 |
| 45° | 3171 | 2360 | 1911 |
| 50° | 3073 | 2134 | 1667 |
| 55° | 2973 | 1891 | 1431 |
| 60° | 2856 | 1635 | 1188 |
| 65° | 2724 | 1374 | 1081 |
| 70° | 2566 | 1131 | 995  |
| 75° | 2372 | 1032 | 929  |
| 80° | 2094 | 921  | 846  |
| 85° | 1646 | 727  | 727  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3171 cd/sqm

TEST NUMBER: P931266

CATALOG NUMBER: DFN2DS-TR2F0-040DS835-RLL

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 154.9  | 4.6       |
| 10°-20°   | 425.3  | 12.5      |
| 20°-30°   | 597.2  | 17.6      |
| 30°-40°   | 650.9  | 19.1      |
| 40°-50°   | 598.3  | 17.6      |
| 50°-60°   | 469.9  | 13.8      |
| 60°-70°   | 305.8  | 9.0       |
| 70°-80°   | 157.4  | 4.6       |
| 80°-90°   | 40.2   | 1.2       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 1177.4 | 34.6      |
| 0°-40°    | 1828.4 | 53.8      |
| 0°-60°    | 2896.5 | 85.2      |
| 0°-90°    | 3400.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3400.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1653 | 1653  | 1653 | 1653  | 1653 |      |
| 5°  | 1653 | 1646  | 1626 | 1640  | 1635 | 157  |
| 15° | 1572 | 1556  | 1505 | 1477  | 1462 | 443  |
| 25° | 1427 | 1379  | 1281 | 1219  | 1197 | 656  |
| 35° | 1230 | 1154  | 1022 | 928   | 895  | 770  |
| 45° | 1005 | 905   | 748  | 642   | 606  | 776  |
| 55° | 764  | 648   | 486  | 396   | 368  | 683  |
| 65° | 516  | 395   | 260  | 210   | 205  | 512  |
| 75° | 275  | 170   | 120  | 109   | 108  | 291  |
| 85° | 64   | 33    | 28   | 28    | 28   | 77   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

TEST NUMBER: P931266

CATALOG NUMBER: DFN2DS-TR2F0-040DS835-RLL

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1653.2 | 1653.2 | 1653.2 | 1653.2 | 1653.2 |
| 2.5°  | 1660.7 | 1653.2 | 1636.7 | 1651.8 | 1648.7 |
| 5°    | 1653.2 | 1645.7 | 1626.2 | 1639.7 | 1635.3 |
| 7.5°  | 1639.7 | 1630.8 | 1609.9 | 1615.7 | 1608.3 |
| 10°   | 1621.8 | 1611.3 | 1581.4 | 1576.8 | 1568.0 |
| 12.5° | 1599.4 | 1585.9 | 1545.4 | 1536.5 | 1520.0 |
| 15°   | 1572.4 | 1555.9 | 1505.1 | 1476.7 | 1461.8 |
| 17.5° | 1541.0 | 1517.0 | 1454.1 | 1421.3 | 1397.3 |
| 20°   | 1505.1 | 1475.1 | 1400.3 | 1363.0 | 1330.0 |
| 22.5° | 1466.2 | 1431.8 | 1344.9 | 1294.1 | 1271.8 |
| 25°   | 1427.3 | 1379.4 | 1280.6 | 1219.4 | 1196.8 |
| 27.5° | 1381.0 | 1330.0 | 1220.8 | 1150.5 | 1116.0 |
| 30°   | 1331.6 | 1274.6 | 1154.9 | 1078.7 | 1038.3 |
| 32.5° | 1283.7 | 1214.8 | 1092.2 | 1002.4 | 964.9  |
| 35°   | 1229.9 | 1153.5 | 1021.9 | 927.6  | 894.6  |
| 37.5° | 1177.5 | 1095.1 | 956.0  | 852.7  | 815.4  |
| 40°   | 1122.1 | 1032.4 | 887.2  | 781.0  | 742.1  |
| 42.5° | 1065.2 | 969.5  | 818.4  | 707.6  | 670.3  |
| 45°   | 1005.4 | 905.1  | 748.1  | 641.8  | 605.9  |
| 47.5° | 948.6  | 842.4  | 680.8  | 574.5  | 541.6  |
| 50°   | 885.7  | 779.5  | 614.9  | 511.6  | 480.3  |
| 52.5° | 824.3  | 712.1  | 552.1  | 453.3  | 424.9  |
| 55°   | 764.5  | 647.8  | 486.2  | 396.5  | 368.1  |
| 57.5° | 703.2  | 583.5  | 427.9  | 344.1  | 320.2  |
| 60°   | 640.3  | 520.6  | 366.5  | 290.3  | 266.4  |
| 62.5° | 579.1  | 459.4  | 314.1  | 242.4  | 230.5  |
| 65°   | 516.2  | 394.9  | 260.3  | 209.5  | 204.9  |
| 67.5° | 456.4  | 335.1  | 209.5  | 184.0  | 179.5  |
| 70°   | 393.5  | 276.8  | 173.5  | 158.6  | 152.5  |
| 72.5° | 333.7  | 222.9  | 145.1  | 133.2  | 130.2  |
| 75°   | 275.2  | 170.5  | 119.7  | 109.2  | 107.8  |
| 77.5° | 217.0  | 121.1  | 94.3   | 88.3   | 85.2   |
| 80°   | 163.0  | 86.8   | 71.7   | 65.9   | 65.9   |
| 82.5° | 113.7  | 58.4   | 49.4   | 46.3   | 46.3   |
| 85°   | 64.3   | 32.9   | 28.4   | 28.4   | 28.4   |
| 87.5° | 24.0   | 11.9   | 11.9   | 10.5   | 10.5   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

TEST NUMBER: P931266

CATALOG NUMBER: DFN2DS-TR2F0-040DS835-RLL

**CIE UGR TABLE:**

| Reflectances:   |      |                  |       |       |       |       |                |       |       |       |       |
|-----------------|------|------------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Ceiling         |      | 0.7              | 0.7   | 0.5   | 0.5   | 0.3   | 0.7            | 0.7   | 0.5   | 0.5   | 0.3   |
| Wall            |      | 0.5              | 0.3   | 0.5   | 0.3   | 0.3   | 0.5            | 0.3   | 0.5   | 0.3   | 0.3   |
| Reference plane |      | 0.2              | 0.2   | 0.2   | 0.2   | 0.2   | 0.2            | 0.2   | 0.2   | 0.2   | 0.2   |
| Room dimensions |      | Viewed crosswise |       |       |       |       | Viewed endwise |       |       |       |       |
| X=2H            | Y=2H | 15.77            | 17.29 | 16.13 | 17.60 | 17.92 | 11.73          | 13.25 | 12.09 | 13.56 | 13.88 |
|                 | 3H   | 17.53            | 18.90 | 17.91 | 19.23 | 19.59 | 12.99          | 14.36 | 13.37 | 14.69 | 15.05 |
|                 | 4H   | 18.20            | 19.48 | 18.60 | 19.83 | 20.21 | 13.50          | 14.78 | 13.90 | 15.13 | 15.50 |
|                 | 6H   | 18.69            | 19.87 | 19.10 | 20.24 | 20.63 | 13.88          | 15.06 | 14.29 | 15.43 | 15.82 |
|                 | 8H   | 18.85            | 19.98 | 19.28 | 20.37 | 20.77 | 14.00          | 15.13 | 14.43 | 15.52 | 15.92 |
|                 | 12H  | 18.96            | 20.04 | 19.39 | 20.42 | 20.85 | 14.08          | 15.16 | 14.51 | 15.54 | 15.97 |
| 4H              | 2H   | 15.87            | 17.15 | 16.27 | 17.50 | 17.88 | 12.42          | 13.70 | 12.82 | 14.05 | 14.43 |
|                 | 3H   | 17.81            | 18.87 | 18.22 | 19.27 | 19.67 | 13.87          | 14.93 | 14.28 | 15.33 | 15.73 |
|                 | 4H   | 18.56            | 19.51 | 18.99 | 19.93 | 20.37 | 14.47          | 15.42 | 14.90 | 15.84 | 16.28 |
|                 | 6H   | 19.15            | 19.98 | 19.60 | 20.42 | 20.88 | 14.96          | 15.79 | 15.41 | 16.23 | 16.69 |
|                 | 8H   | 19.36            | 20.14 | 19.82 | 20.58 | 21.05 | 15.12          | 15.89 | 15.58 | 16.34 | 16.81 |
|                 | 12H  | 19.52            | 20.21 | 20.00 | 20.69 | 21.16 | 15.23          | 15.93 | 15.72 | 16.41 | 16.88 |
| 8H              | 4H   | 18.58            | 19.36 | 19.04 | 19.80 | 20.27 | 14.82          | 15.60 | 15.28 | 16.04 | 16.51 |
|                 | 6H   | 19.22            | 19.86 | 19.71 | 20.35 | 20.83 | 15.41          | 16.05 | 15.90 | 16.54 | 17.02 |
|                 | 8H   | 19.47            | 20.04 | 19.98 | 20.55 | 21.04 | 15.63          | 16.20 | 16.14 | 16.71 | 17.20 |
|                 | 12H  | 19.67            | 20.18 | 20.18 | 20.67 | 21.24 | 15.81          | 16.32 | 16.32 | 16.81 | 17.37 |
| 12H             | 4H   | 18.56            | 19.26 | 19.05 | 19.74 | 20.21 | 14.86          | 15.56 | 15.35 | 16.04 | 16.51 |
|                 | 6H   | 19.20            | 19.78 | 19.71 | 20.28 | 20.77 | 15.47          | 16.05 | 15.98 | 16.56 | 17.05 |
|                 | 8H   | 19.48            | 19.99 | 19.99 | 20.48 | 21.05 | 15.74          | 16.25 | 16.25 | 16.75 | 17.31 |